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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,676	11/18/2003	Kenichi Nakagawa	034053-001	2329
21839	7590	05/23/2005	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			SCHECHTER, ANDREW M	
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ALEXANDRIA, VA 22313-1404			PAPER NUMBER	

2871

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,676	Applicant(s) NAKAGAWA, KENICHI	
	Examiner Andrew Schechter	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 4,5,9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/18/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informalities: in the last line, "compensator" should be "compensator(s)" and "color" should be "color(s)".

Appropriate correction is required.

3. Claims 2 and 7 are objected to because of the following informalities: "the retardation compensator" should be "the retardation compensator for the primary color light with the shortest wavelength". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by *Yamagishi et al.*, U.S. Patent No. 5,157,523.

Yamagishi discloses [see Figs. 1-3, for instance] a system for compensating retardation caused by birefringence of incident light to liquid crystal devices, each of the liquid crystal devices [1] is provided in the optical axis of each of plural primary color lights with different wavelengths [red, green, blue], the system comprising: retardation compensators [3a, 3b], formed from inorganic materials [quartz, col. 11, line 16-23], provided in at least one of the incidence surface side and the emanation side of the liquid crystal devices, and the retardation compensator for the primary color light with the shortest wavelength [blue] having a different structure from the retardation compensators for other primary color [col. 6, lines 7-37; different retardation values, so different structures]. Claim 1 is therefore anticipated.

This device is a liquid crystal projector for focusing the primary color lights on a screen [64] to display an image, so claim 6 is also anticipated.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamagishi et al.*, U.S. Patent No. 5,157,523 as applied above, in view of *Weber*, U.S. Patent No. 6,590,707.

Yamagishi does not disclose that the retardation compensator for the primary color light with the shortest wavelength is composed of at least two kinds of thin film layers with different refractive indices, and the optical thickness of each thin film layer is 1/100 to 1/5 of the wavelength of the corresponding primary color light. *Weber* discloses [see Fig. 2, for instance] retardation compensators composed of at least two kinds of thin film layers with different refractive indices [col. 7, lines 1-5], and the optical thickness of each thin film layer in the recited range [col. 6, lines 46-48]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use retardation compensators of this kind in the device of *Yamagishi*, motivated by *Weber's* teaching that such retardation compensators can be formed using conventional vacuum techniques and conventional inorganic materials, with advantages in manufacturing and use [col. 2, lines 4-7, col. 13, lines 12-14, etc.] Claims 2 and 7 are therefore unpatentable.

Similarly, it would also have been obvious to one of ordinary skill in the art at the time of the invention to use retardation compensators with this same common combination of inorganic materials (TiO_2 and MgF_2) for the other retardation compensators in *Yamagishi* [note that the retardation values can be made to vary as seen in Fig. 3 of *Weber*]. Claims 3 and 8 are therefore unpatentable as well.

Allowable Subject Matter

8. Claims 4, 5, 9, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the device of claims 4 and 9, in particular the limitation that the number of layered thin films of the retardation compensator for the primary color light with the shortest wavelength is smaller than that of the retardation compensators for the other primary color light. Claims 4 and 9 would therefore be allowable if rewritten appropriately.

The prior art does not disclose the device of claims 5 and 10, in particular the limitation that the length of the birefringent member for the shortest wavelength primary color light in the optical axis is smaller than that for other primary color light. [Weber discloses a plurality of birefringent members as recited, see Fig. 7, but not the recited relative lengths of the members in the different color light.] Claims 5 and 10 would therefore be allowable if rewritten appropriately.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew Schechter
Patent Examiner
Technology Center 2800
13 May 2005